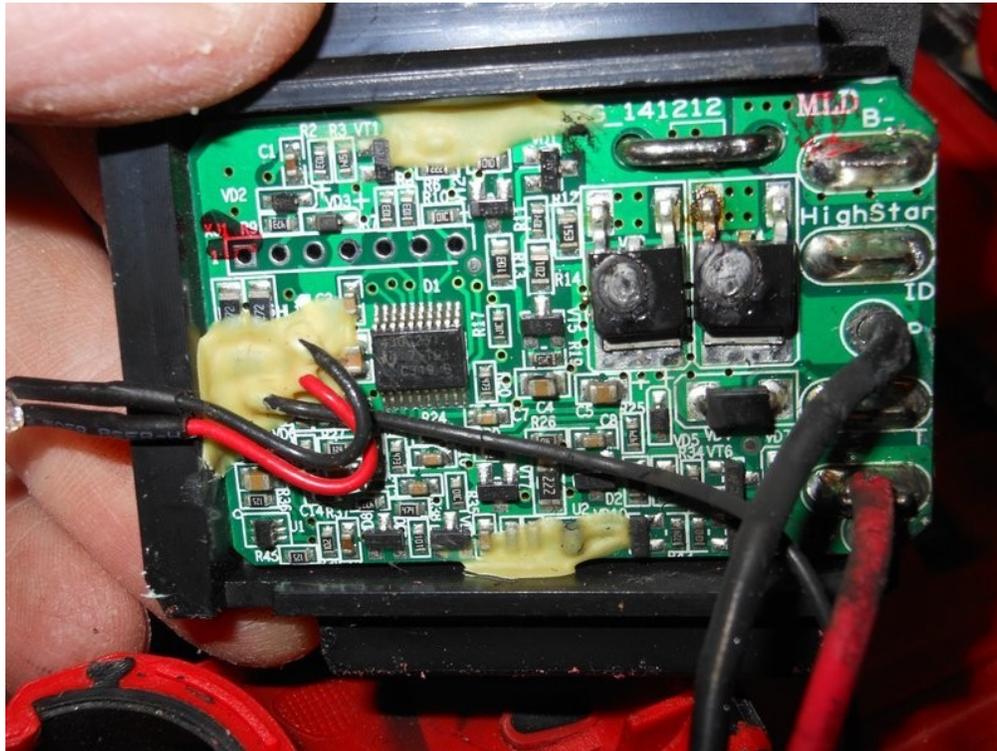


## Harbor Freight Bauer Drill



*Component Meltdown*

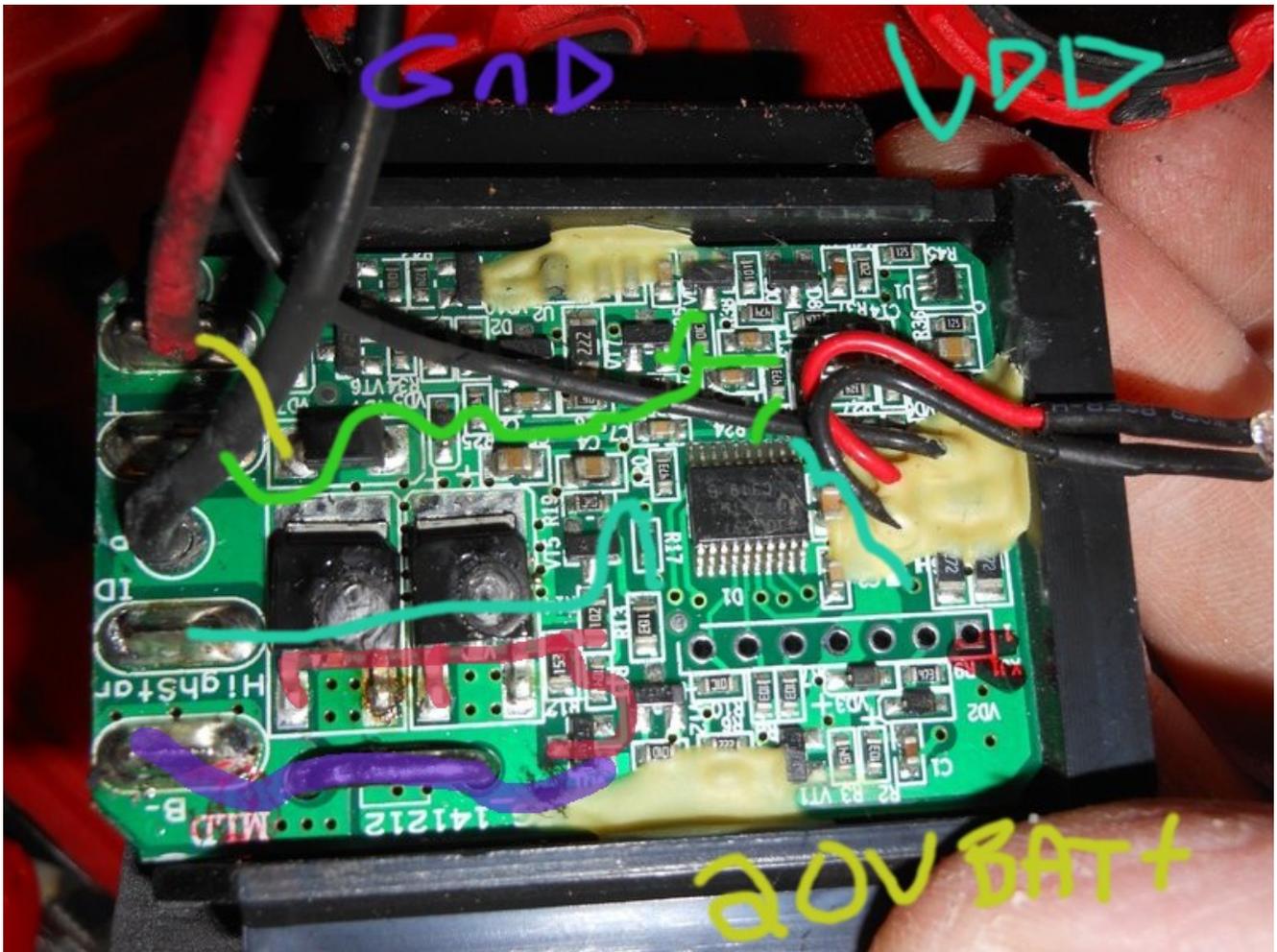
2 Dpak components have big burnt out holes on them. Need replacement. What is their pinout?  
Motor is Mabuchi model: RZ-735VA-A014. Range 6-20 volts.  
Switch before motor is 7.2 – 24 volts.

Micro is TI msp430g252. Drills need a micro now. Great idea.../s  
Question is, what is the level of the voltage regulator? Is it 20V?  
It appears to be an onsemi (likely counterfeit) model such as: CS52015  
I can't find an exact match from Digikey which only searches current models, not historical models.  
I may be able to throw an adjustable vreg with similar pinout in...  
The battery is 20V. The dpaks aren't getting any power, even when broken, unless switch is pressed.  
I need my DMM which I don't have, to reverse engineer further.  
The two DPaks have a pin tied together, and that pin may be adj for a vreg, adjusted by resistors.

N OR PW PACKAGE  
(TOP VIEW)

DVCC	1	20	DVSS
P1.0/TA0CLK/ACLK/A0	2	19	XIN/P2.6/TA0.1
P1.1/TA0.0/A1	3	18	XOUT/P2.7
P1.2/TA0.1/A2	4	17	TEST/SBWTCK
P1.3/ADC10CLK/VREF-/VEREF-/A3	5	16	RST/NMI/SBWTIO
P1.4/TA0.2/SMCLK/A4/VREF+/VEREF+/TCK	6	15	P1.7/SDI/SDA/A7/TDO/TDI
P1.5/TA0.0/A5/TMS	7	14	P1.6/TA0.1/SDO/SCL/A6/TDI/TCLK
P2.0	8	13	P2.5
P2.1	9	12	P2.4
P2.2	10	11	P2.3

NOTE: ADC10 pin functions are available only on MSP430G2x32.



Board. When switch is pressed, there is 20V on the tab of vreg. I believe the VReg must've overheated and shorted (perhaps counterfeit?). Original device must've been an adjustable vreg, per the resistors on the red line for adj. pin. Pin out is Tab = VIN, Left pin = Adj, ? Though Right pin is to GND. Maybe it's a current limiter, not an adjustable Vreg, allowing Tab when V+ to be dropped down and current will flow. In that respect, maybe these are power transistors. Not Vregs.